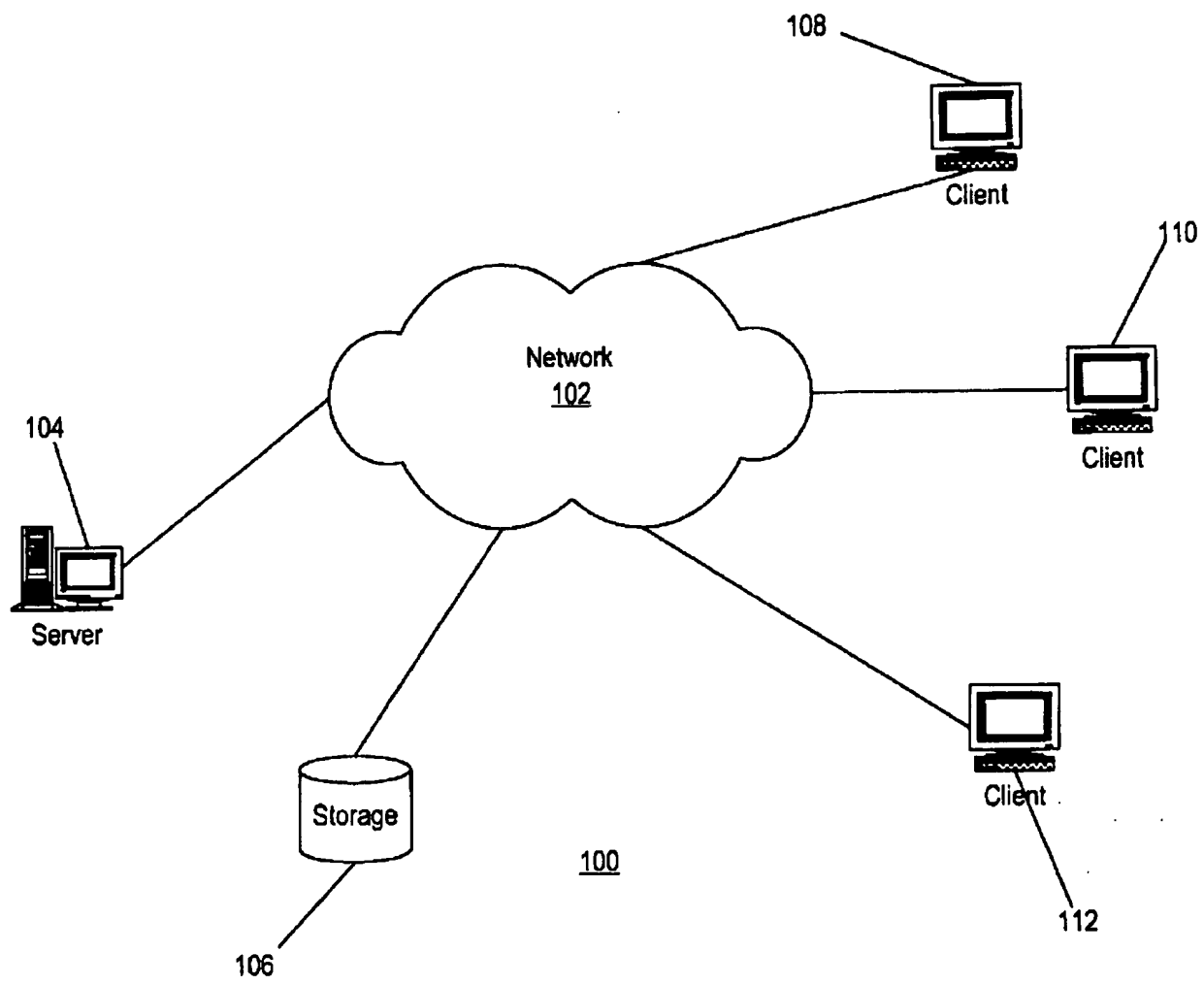


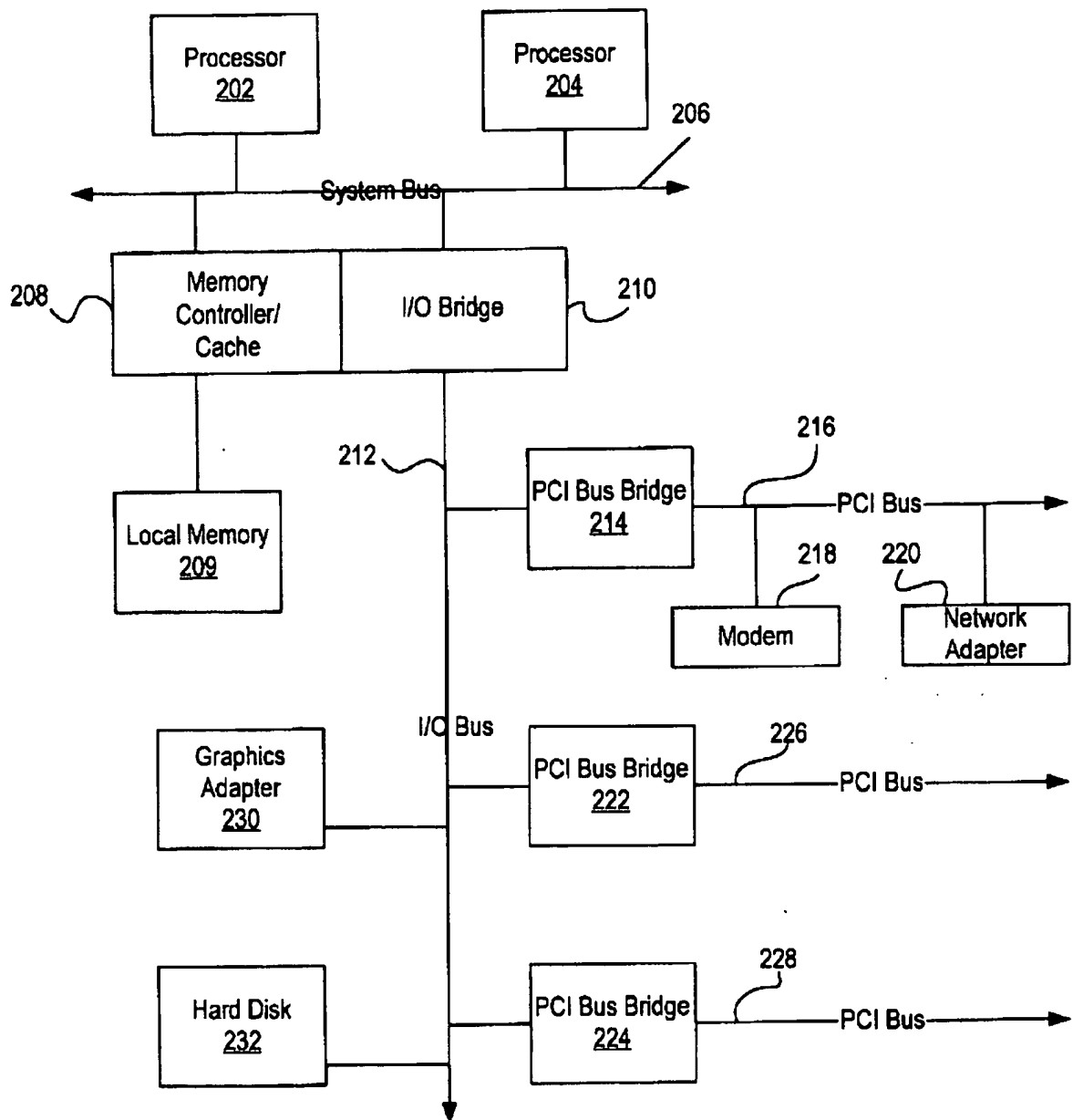
EK690671357US

Figure 1
AUS000057US1



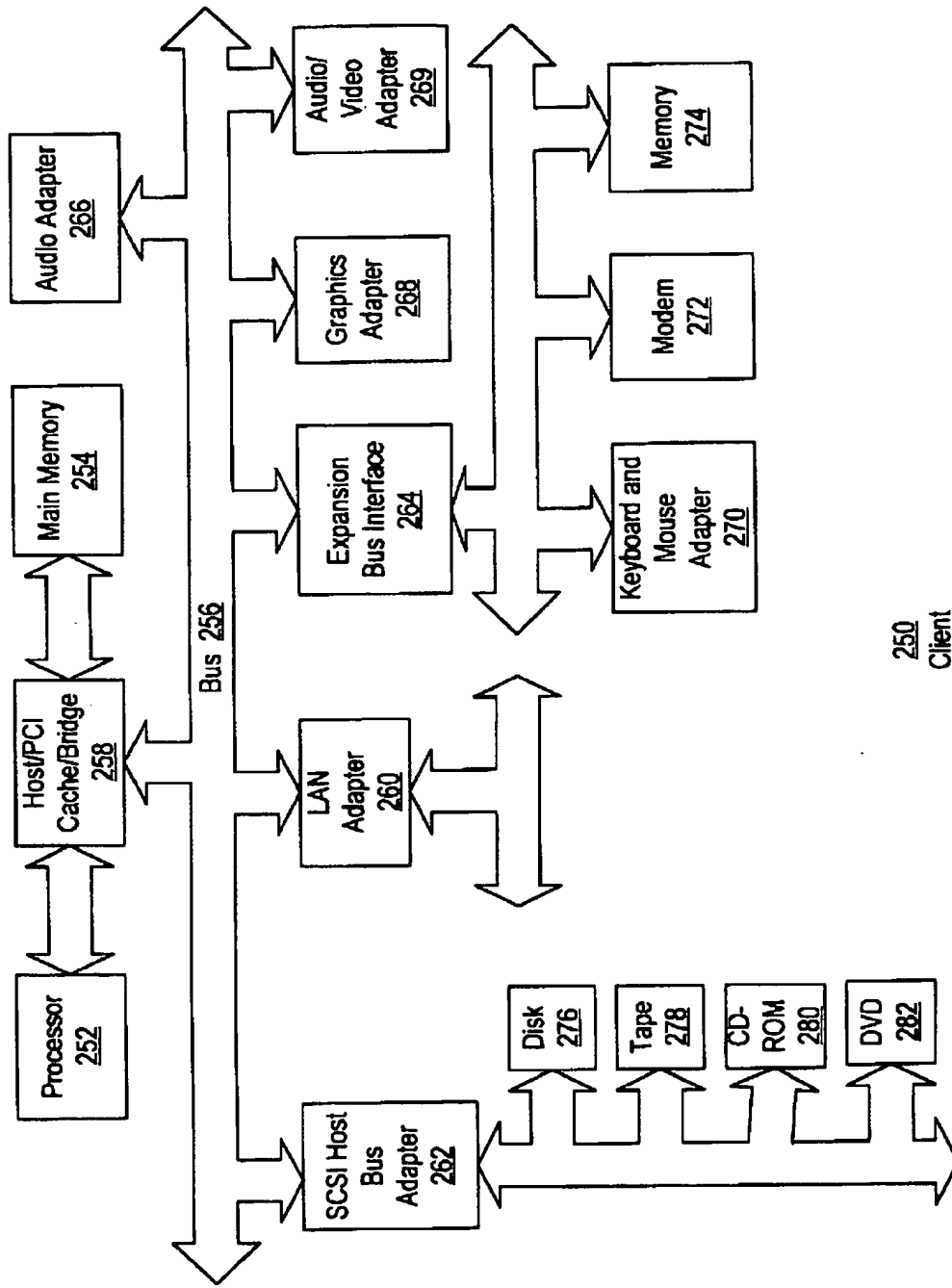
005020-05221560

005020 03621560



200

Figure 2A
AUS000057US1



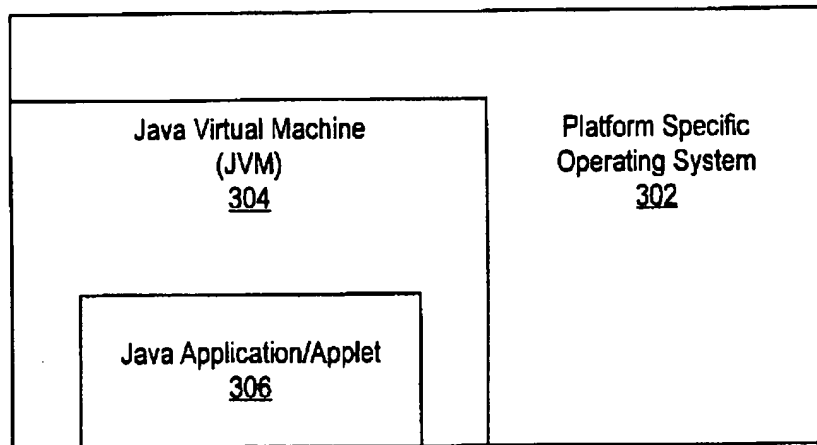
250
Client

Figure 2B

AUS000057US1

Figure 3A

AUS000057US1



300

000020-0361560

Figure 3B

AUS000057US1

350

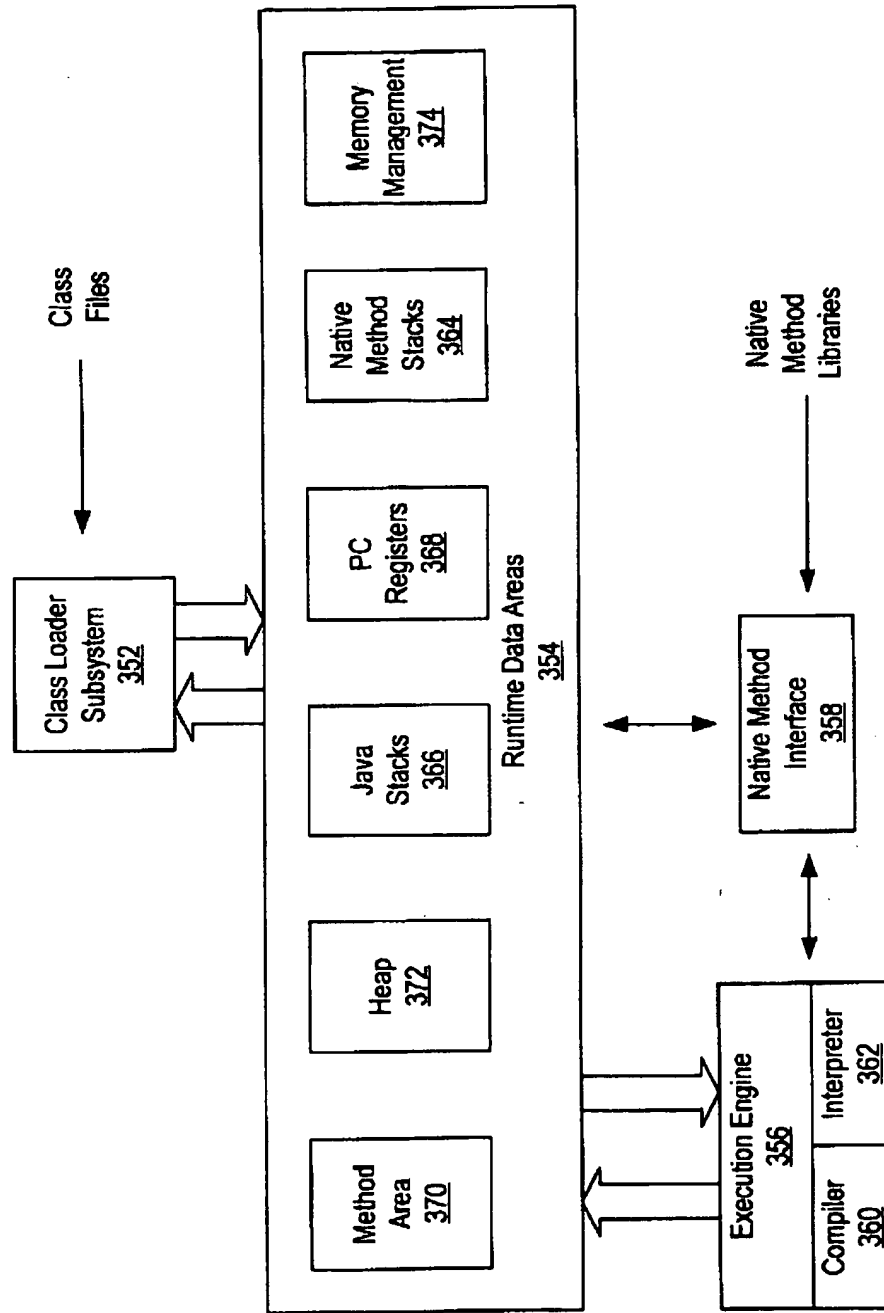
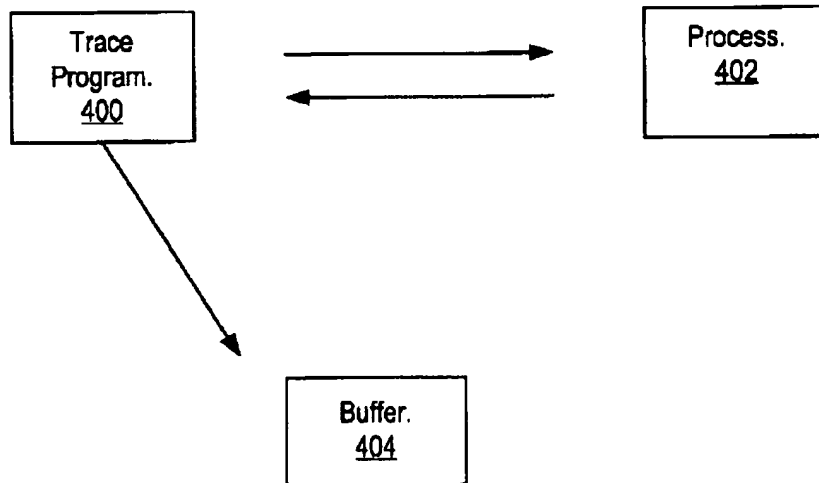


Figure 4
AUS000057US1



005020" 03627560

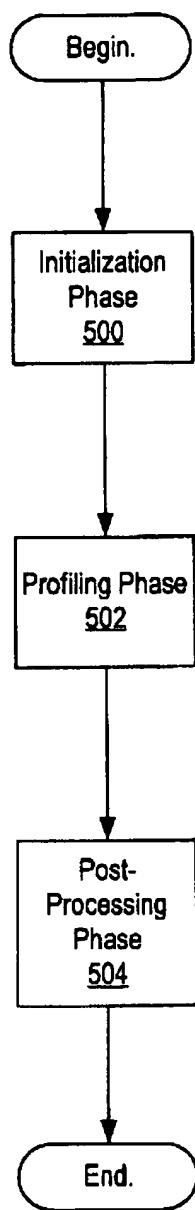
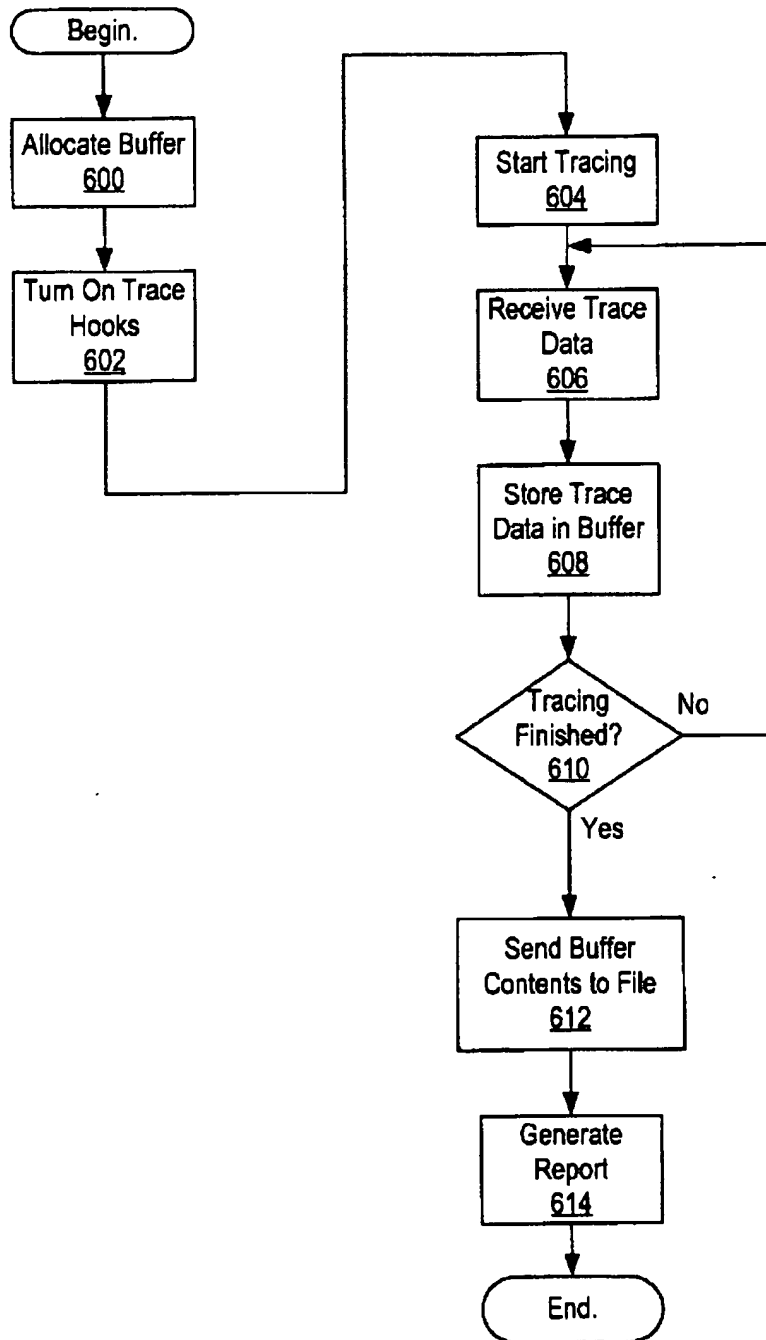


Figure 5
AUS000057US1

Figure 6
AUS000057US1

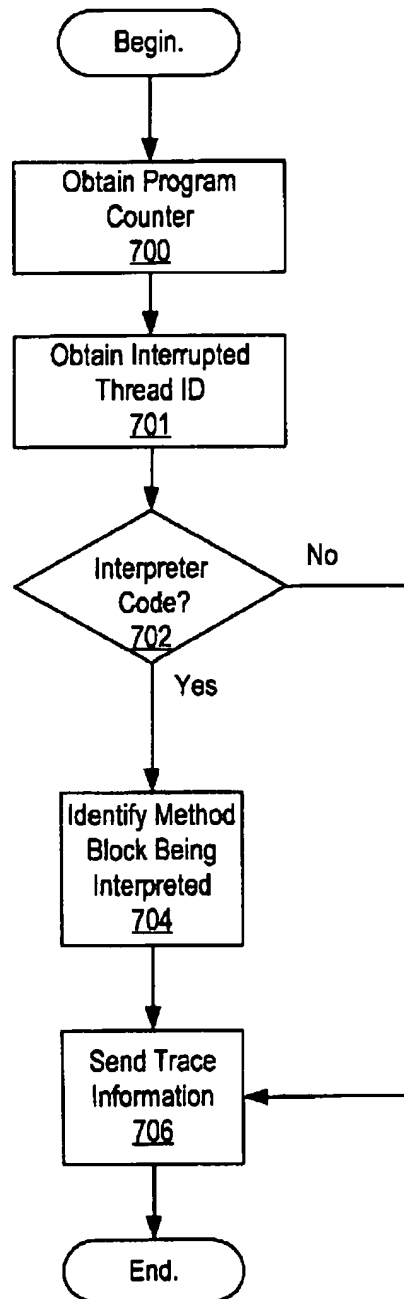


005020" 0322560

Figure 7

AUS000057US1

Interrupt Hook



005020-03661520

Figure 8
AUS000057US1

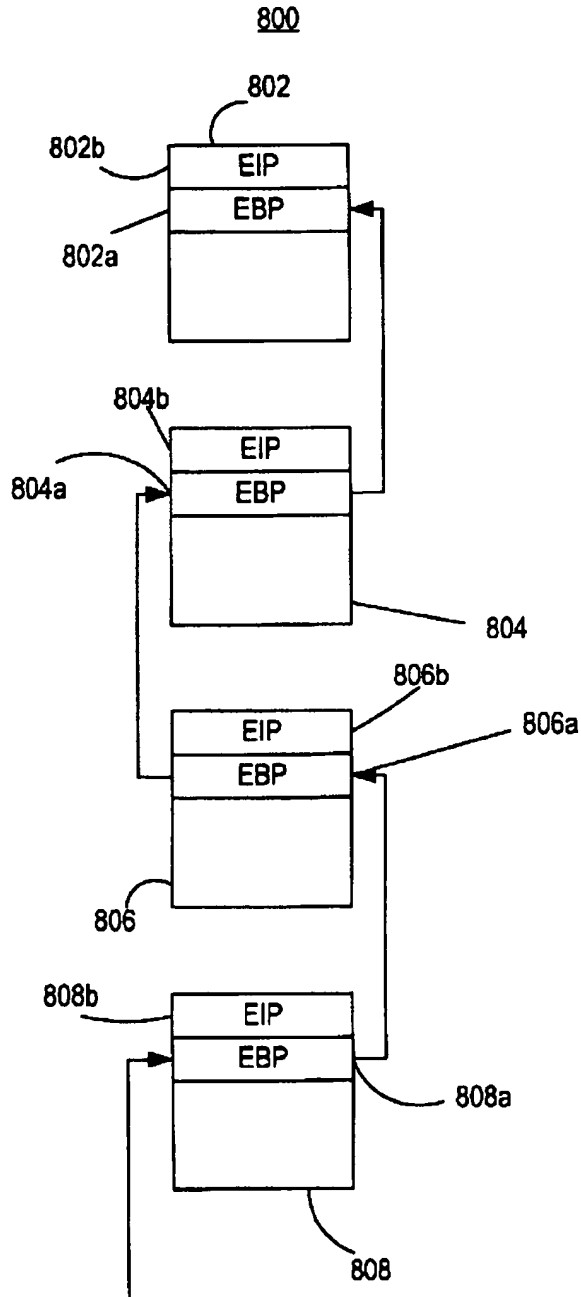
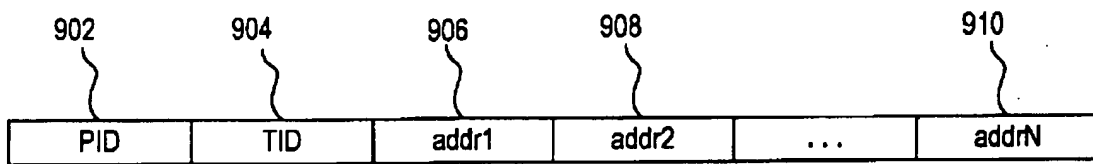


Figure 9

AUS000057US1

900



Timestamp	Event	Call Stack After
0	enter C	Event
1	enter A	C
2	enter B	CA
3	exit from B	CAB
4	enter B	CA
5	enter B	CAB
6	exit from B	CABB
7	exit from B	CAB
8	exit from A	CA
9	enter B	C
10	enter A	CB
11	enter B	CBA
12	enter A	CBAB
13	exit from A	CBABA
14	exit from B	CBA
15	enter X	CBAX
16	exit from X	CBA
17	exit from A	CB
18	exit from B	C
19	exit from C	

Figure 10A

AUS000057US1

Sample	Call Stack @ Sample
1	C
2	CAB
3	CAB
4	CAB
5	C
6	CBA
7	CBABA
8	CBA
9	CBA
10	C

Figure 10B

AUS000057US1

Figure 10C

AUS000057US1

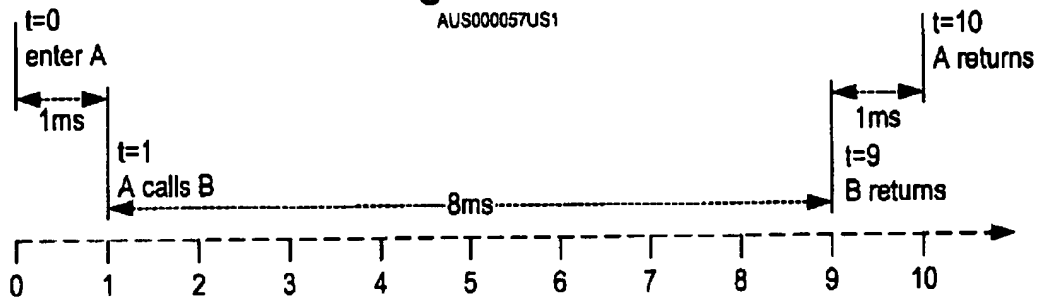


Figure 10D

AUS000057US1

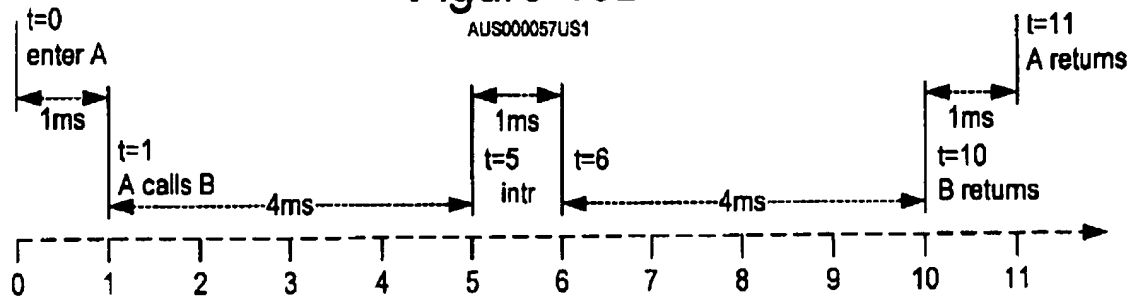


Figure 11A

AUS000057US1

1100

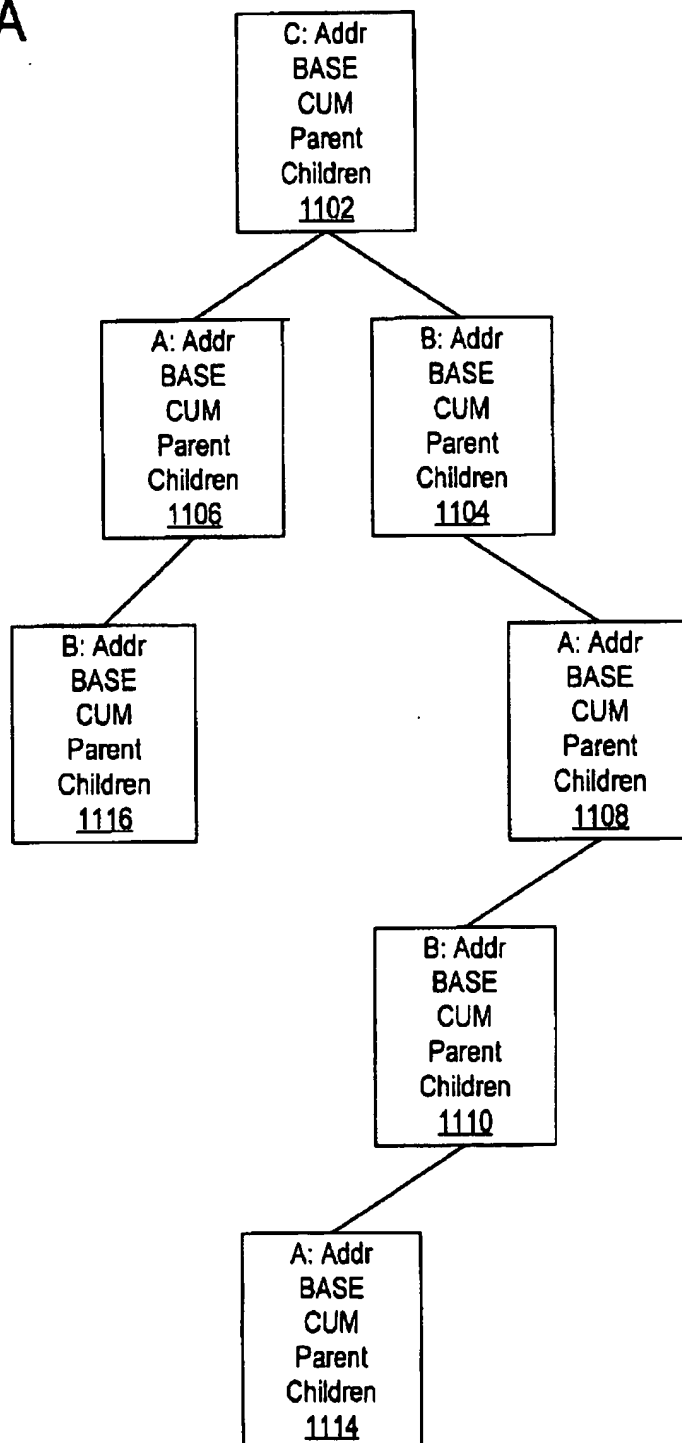
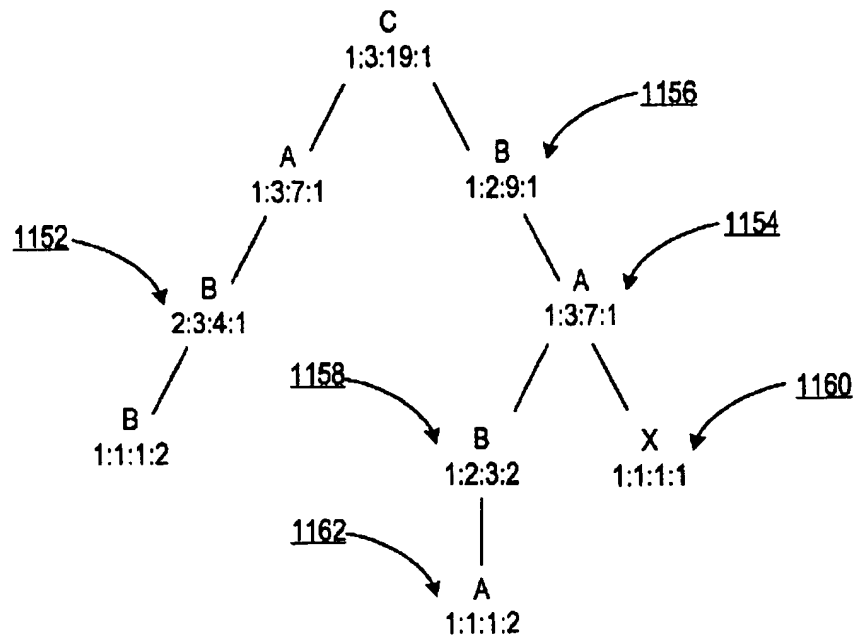


Figure 11B

AUS000057US1



005020-05E1560

AUS000057US1

<u>Level</u> <u>1230</u>	<u>RL</u> <u>1232</u>	<u>Calls</u> <u>1234</u>	<u>Base</u> <u>1236</u>	<u>Cum</u> <u>1238</u>	<u>Indent</u> <u>1240</u>
0	1	1	0	19	pt_pidtid
1	1	1	3	19	- C
2	1	1	3	7	-- A
3	1	2	3	4	--- B
4	2	1	1	1	---- B
2	1	1	2	9	-- B
3	1	1	3	7	--- A
4	2	1	2	3	---- B
5	2	1	1	1	----- A
4	1	1	1	1	---- X

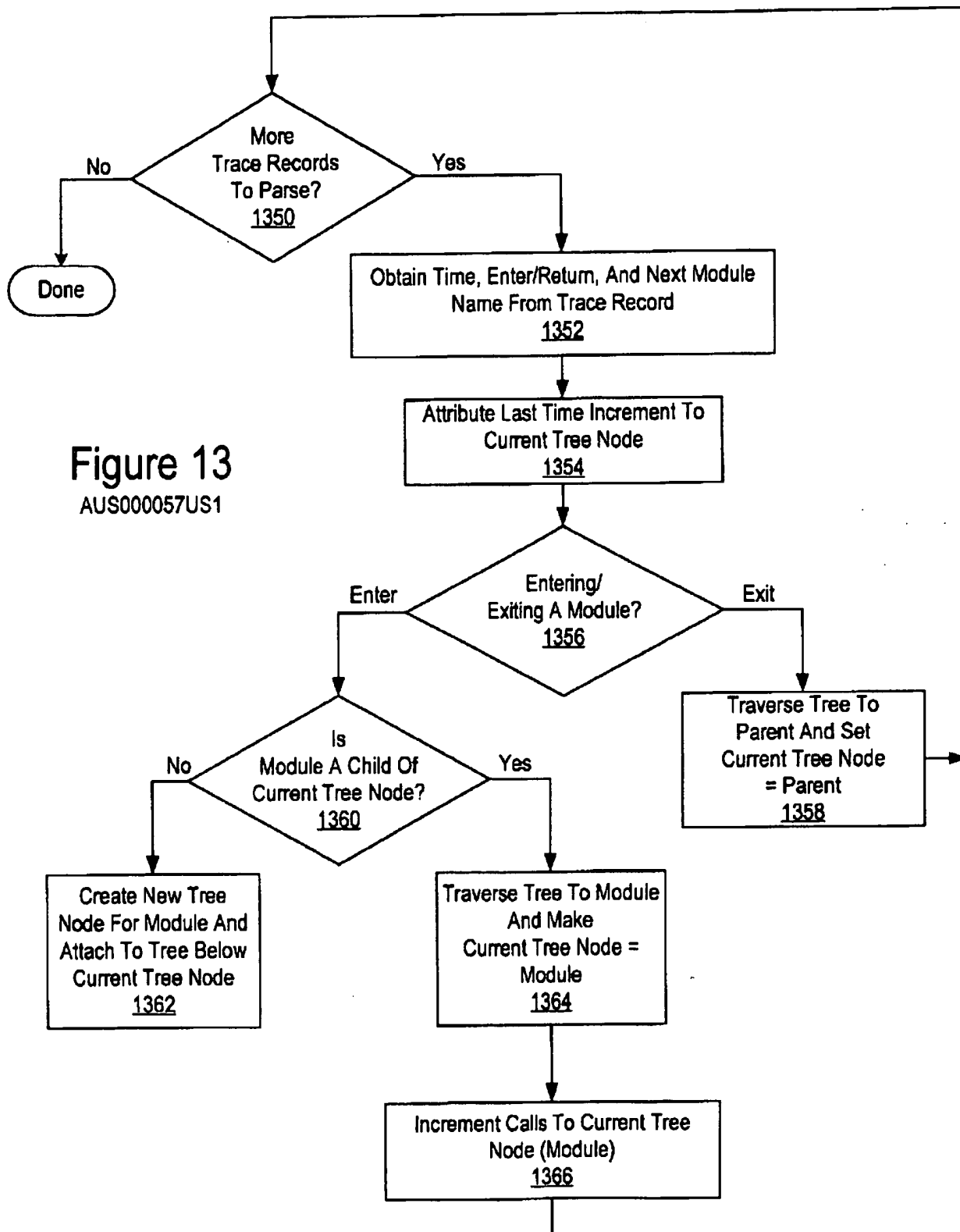
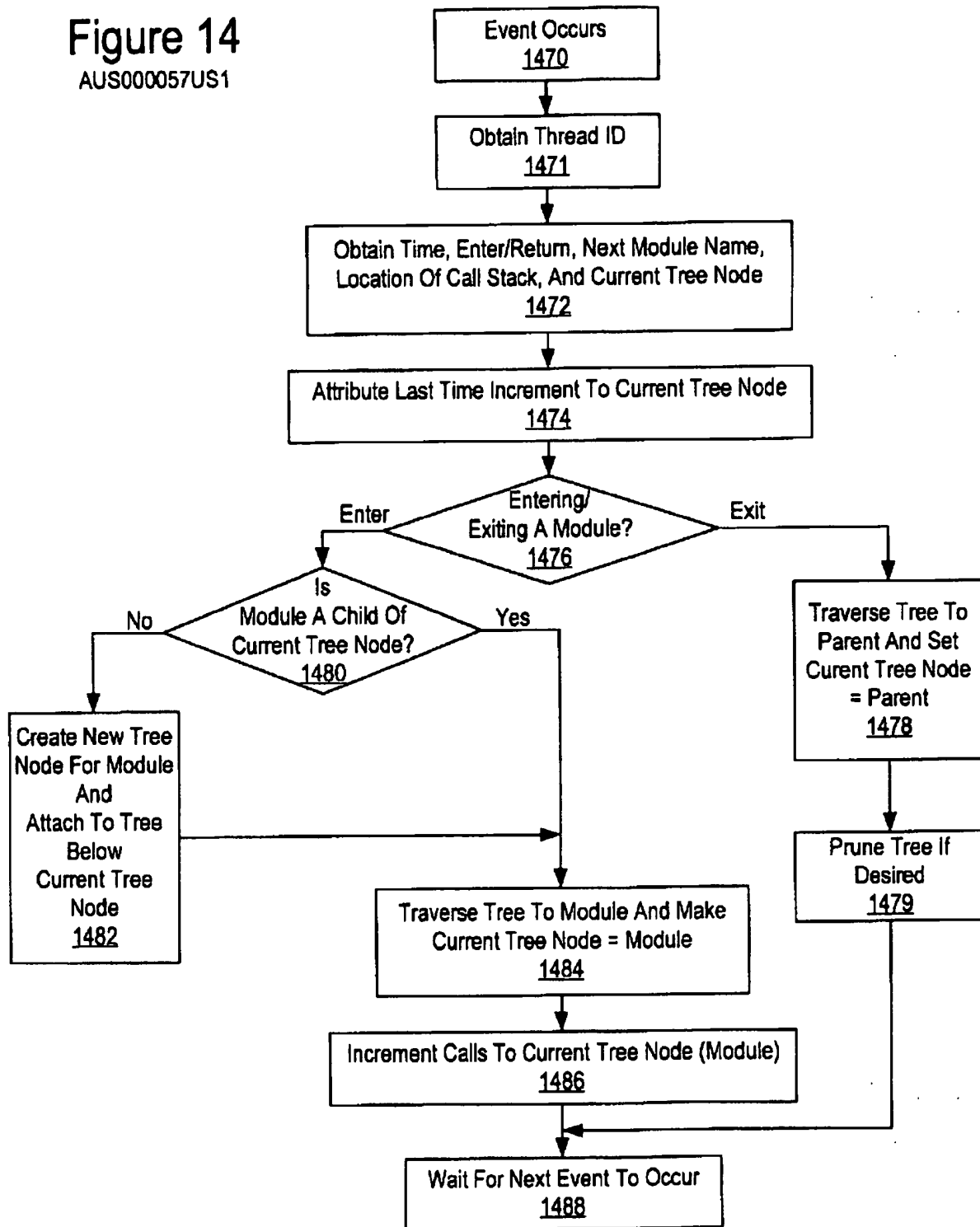
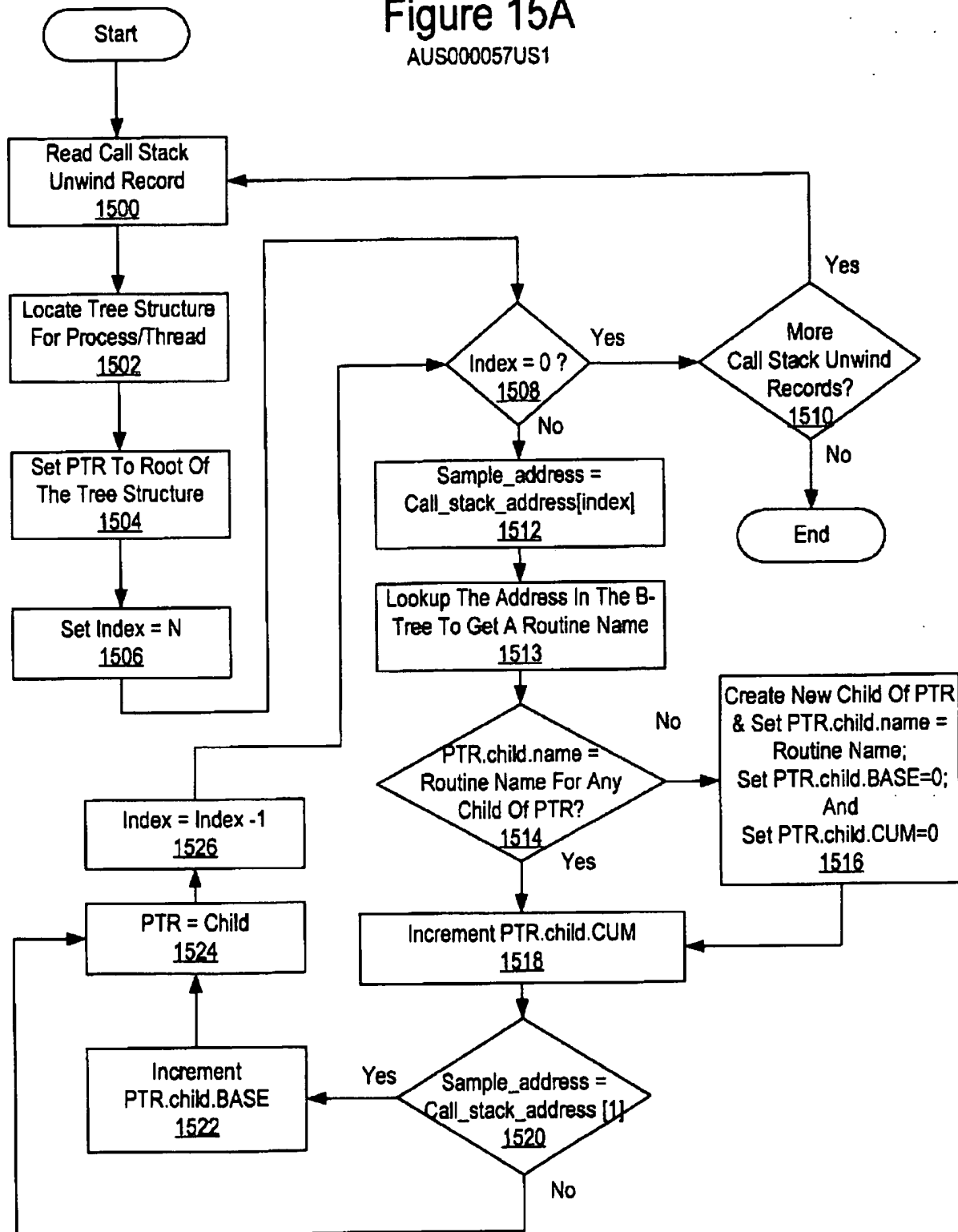


Figure 13
AUS000057US1

005020"0522560

Figure 14
AUS000057US1





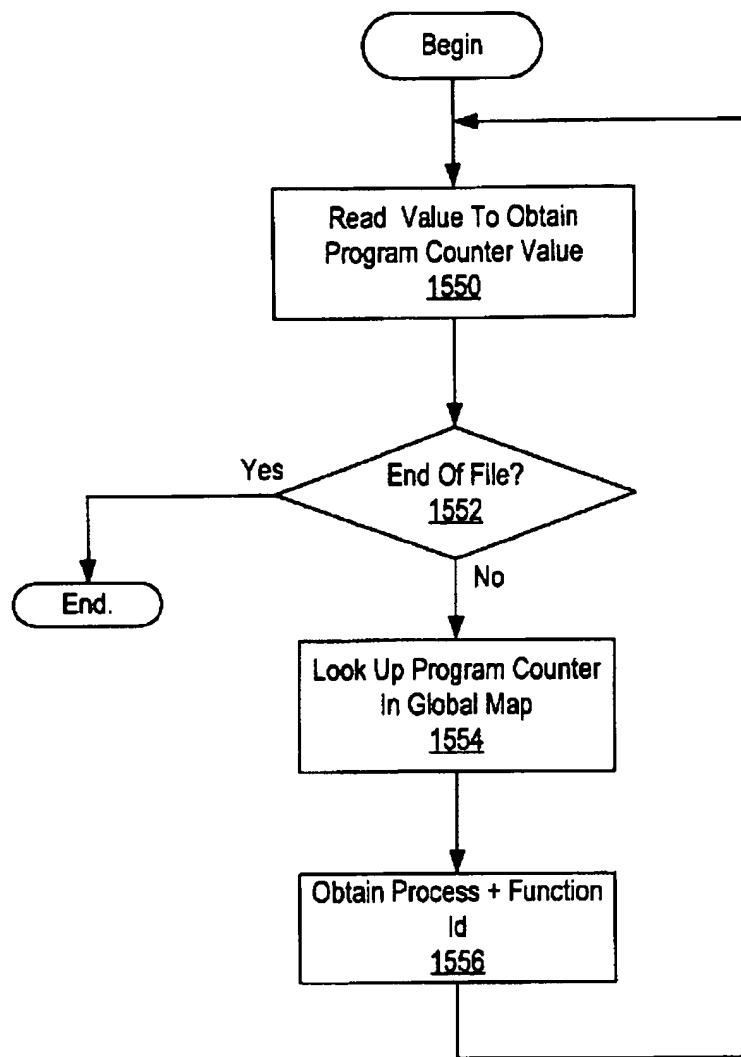


Figure 15B
AUS000057US1

005020"0527520

Figure 16

AUS000057US1

1600

Calls <u>1602</u>	Base <u>1604</u>	Cum <u>1606</u>	Name <u>1608</u>
1	0	19	pt_pit.tid
1	3	19	C
3	7	14	A
5	8	13	B
1	1	1	X

Figure 17

AUS000057US1

1700

ArcFlow Output

Base - Time/Instructions directly in function

Cum - Time/Instructions directly & indirectly in function

ArcFlow Invariants:

1) Sum(Parent(Calls)) = Self(Calls)

2) Sum(Parent(Base)) = Self(Base)

3) Sum(Parent(Cum)) = Self(Cum)

4) Sum(Child(Cum)) = Self(Cum) - Self(Base)

Source	Calls	Base	Cum	Function
Self	1	0	19 [0]	pt_pidtid
Child	1	3	19 C	
Parent	1	3	19	pt_pidtid
Self	1	3	19 [1]	C
Child	1	2	9 B	
Child	1	3	7 A	
Parent	1	3	7 C	
Parent	1	3	7 B	
rParent	1	1	1 B	
Self	3	7	17 [2]	A
			15	
Child	3	5	7 B	
Child	1	1	1 X	
Parent	2	3	4 A	
rParent	1	2	3 A	
Parent	1	2	9 C	
Self	5	8	13 [3]	B
			17	
Child	1	3	7 A	
rChild	1	1	1 A	
Child	1	1	1 B	
Parent	1	1	1 A	
Self	1	1	1 [4]	X

005020-0521520

Figure 18

AUS000057US1

Units :: Ticks
Total :: 342

1800

LvL	RL	Calls	Base	Cum	Indent	Name	
1	1	1	0	342	-	_Thread-21__(0xe0046618)	
2	1	3	0	342	--	J:nulltestScore()I	
3	1	2	0	272	---	J:nulltestMilliseconds(I)I	
4	1	29450	0	271	---	J:nullexecute()I	
5	1	271	0	271	---	+ stack_0x40	
6	1	271	0	271	---	+ F:ExecuteJava	1802
7	1	271	0	271	---	+ F:_jit_invokeCompiledEntryMethod	
8	1	271	0	271	---	+ F:_jit_invokeentry	
9	1	271	0	271	---	+ F:JITInvokeCompiledEntryMethod_md	
10	1	271	0	271	---	+ J:nullrun()V	
11	2	271	0	271	---	+ J:nulltestScore()I	
12	2	271	0	271	---	+ J:nulltestMilliseconds(I)I	
13	2	271	268	271	---	+ J:nullexecute()I	1806
14	1	2	0	2	---	+ F:jperf_methodEntry	
15	1	2	0	2	---	+ F:SoftTracehook	
16	1	2	2	2	---	+ F:enable_interrupts	
14	1	1	1	1	---	+ F:jperf_methodExit	
4	1	1	0	1	---	+ stack_0x40	
5	1	1	0	1	---	+ F:ExecuteJava	1804
6	1	1	0	1	---	+ F:_jit_invokeCompiledEntryMethod	
7	1	1	0	1	---	+ F:_jit_invokeentry	
8	1	1	0	1	---	+ F:JITInvokeCompiledEntryMethod_md	
9	1	1	0	1	---	+ J:nullrun()V	
10	2	1	0	1	---	+ J:nulltestScore()I	
11	2	1	0	1	---	+ J:nulltestMilliseconds(I)I	
12	1	1	0	1	---	+ J:nullexecute()I	1808
13	1	1	0	1	---	+ F:jperf_methodExit	
14	1	1	0	1	---	+ F:SoftTracehook	
15	1	1	1	1	---	+ F:enable_interrupts	
4	1	2	0	0	---	+ J:nullcleanUp()I	

009020-05221560

AUS000057US1

Major Code	Minor Code	Data Item 1	Data Item 2	Data Item 3	Data Item 4	Data Item 5	Description
0x4	level + 0x1	depth	n/a	n/a	n/a		begin interrupt at level
0x4	level + 0x80000001	depth	n/a	n/a	n/a		end interrupt at level
0x10	0xab	system tid	java tid	is System Thread (boolean)	n/a		thread created without a name while trace active
0x10	0xac	system tid	n/a	n/a	n/a		identifies the idle thread
0x10	0xad	system tid	n/a	n/a	n/a		identifies the garbage collection thread
0x10	0xae	system tid	java tid	thread name	n/a		thread created with a name while trace active
0x30	0x10	object id	method block address	n/a	n/a		method invocation (interpreted)
0x30	0x10 + 0x80000000	object id	method block address	n/a	n/a		method exit (interpreted)
0x40	0x7ffffff	number (n) of stack unwinds at timer interrupt	pc1-program counter of interrupted routine	pc2-caller of interrupted routine	pcn-1 of n-2nd caller of interrupted routine	pcn of n-1st caller of interrupted routine
0x41	0x7ffffff	number (n) of stack unwinds at instrumented routine	pc1-program counter of instrumented routine	pc2-caller of instrumented routine		pcn of n-1st caller of instrumented routine
0x50	0x10	object id	method block address	n/a	n/a		method invocation (jitted)
0x50	0x10 + 0x80000000	object id	method block address	n/a	n/a		method exit (jitted)

Figure 20
AUS000057US1

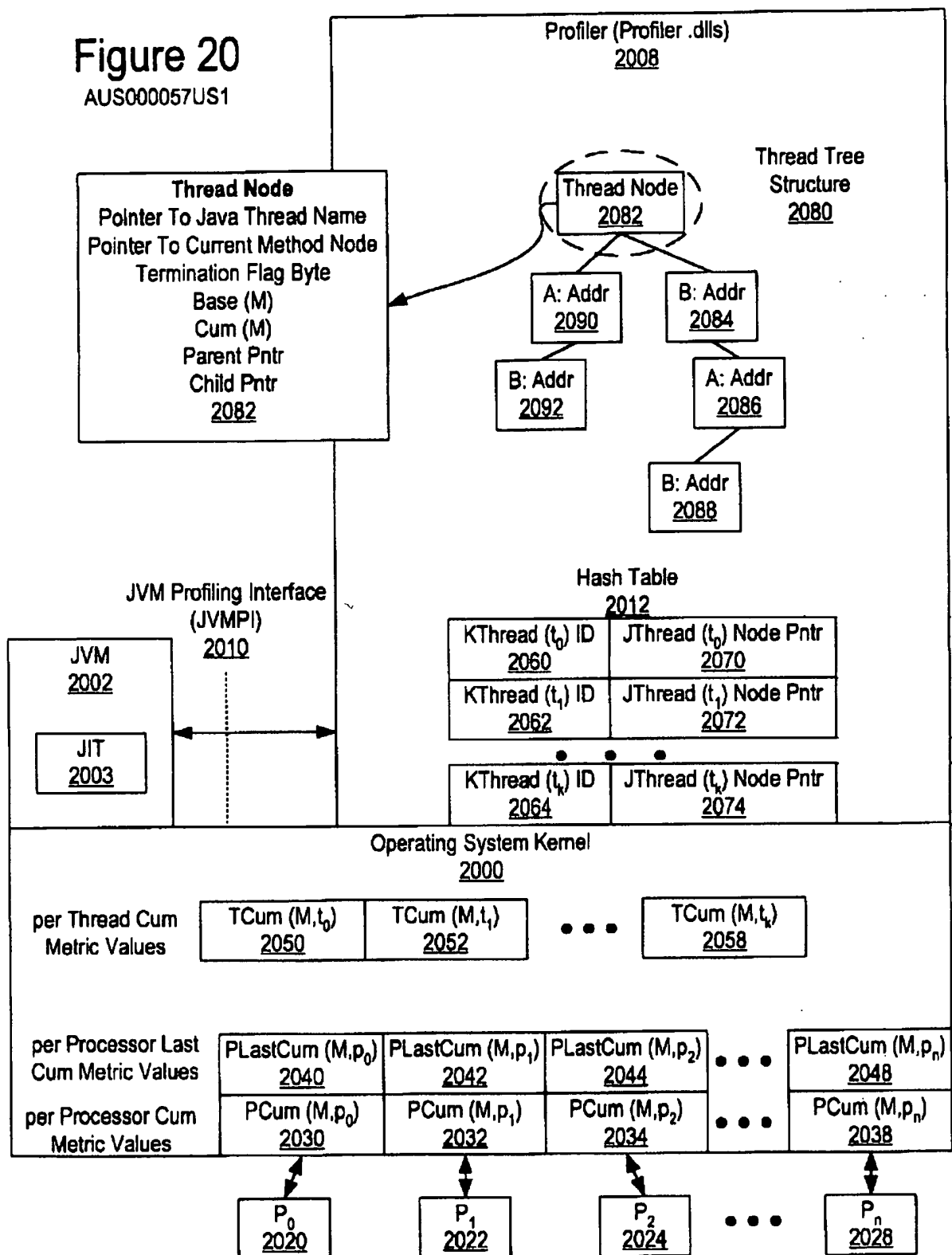
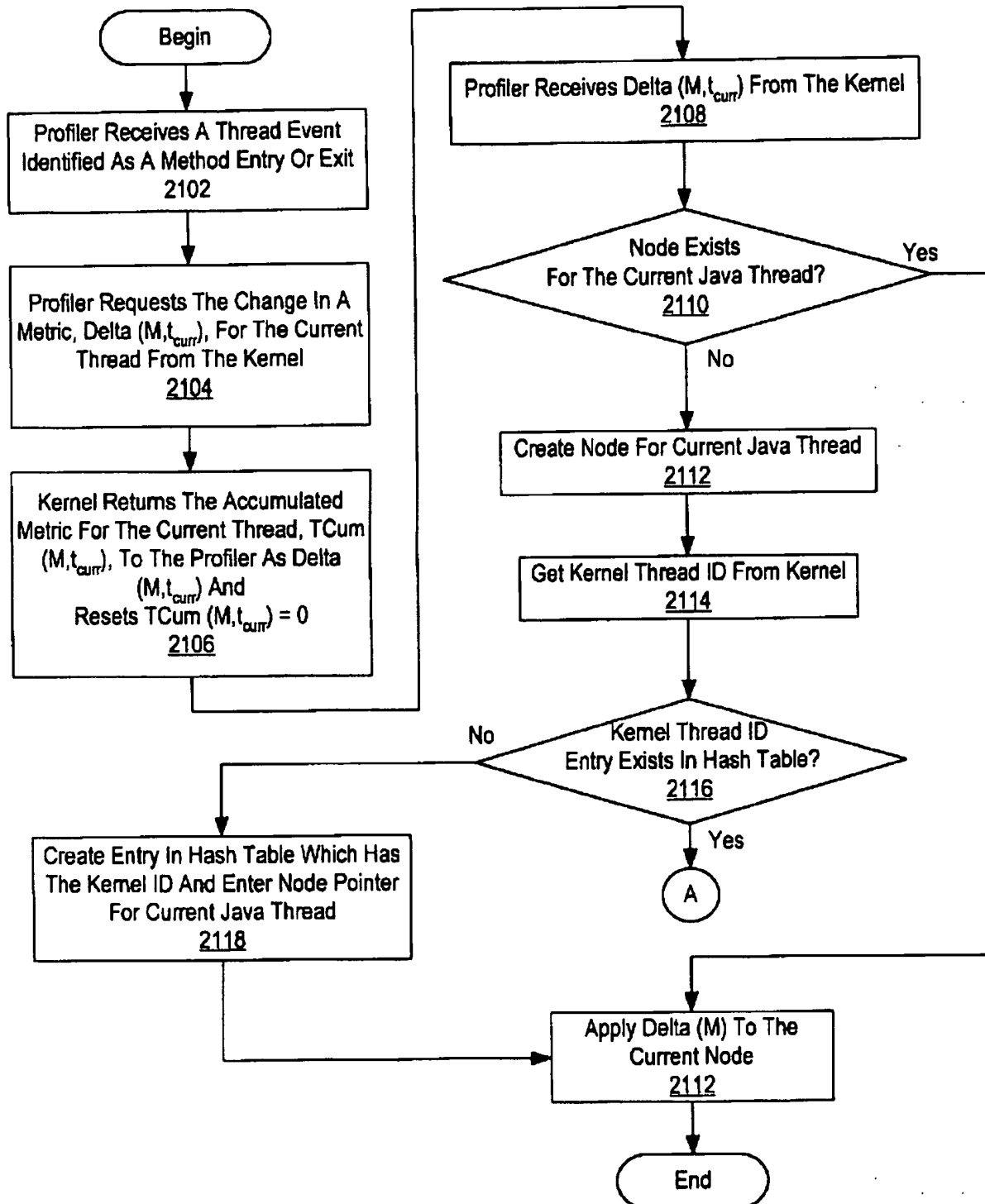


Figure 21A

AUS000057US1



005020-050250

Figure 21B

AUS000057US1

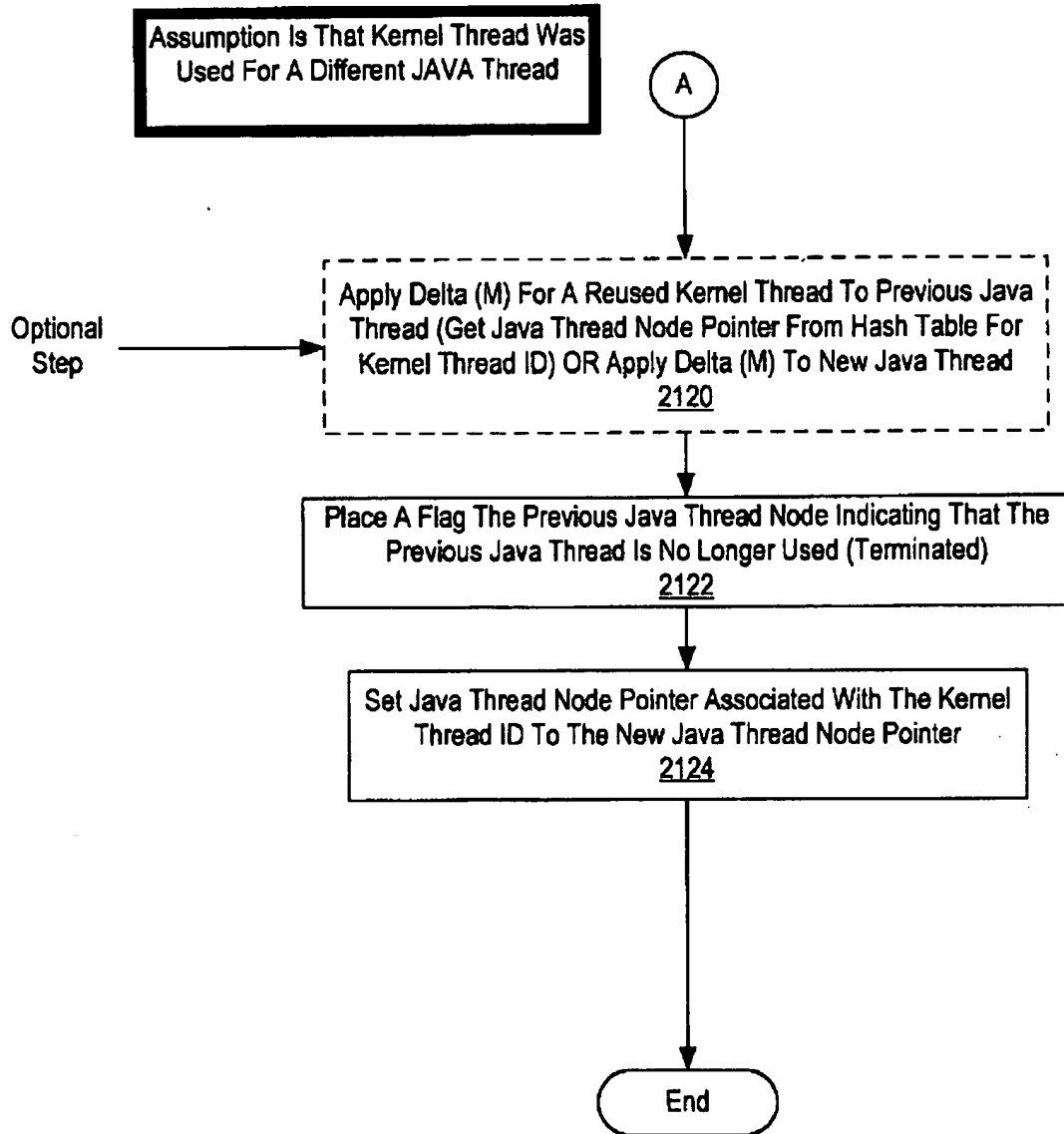


Figure 22

AUS000057US1

Java Thread Termination Notification Handling

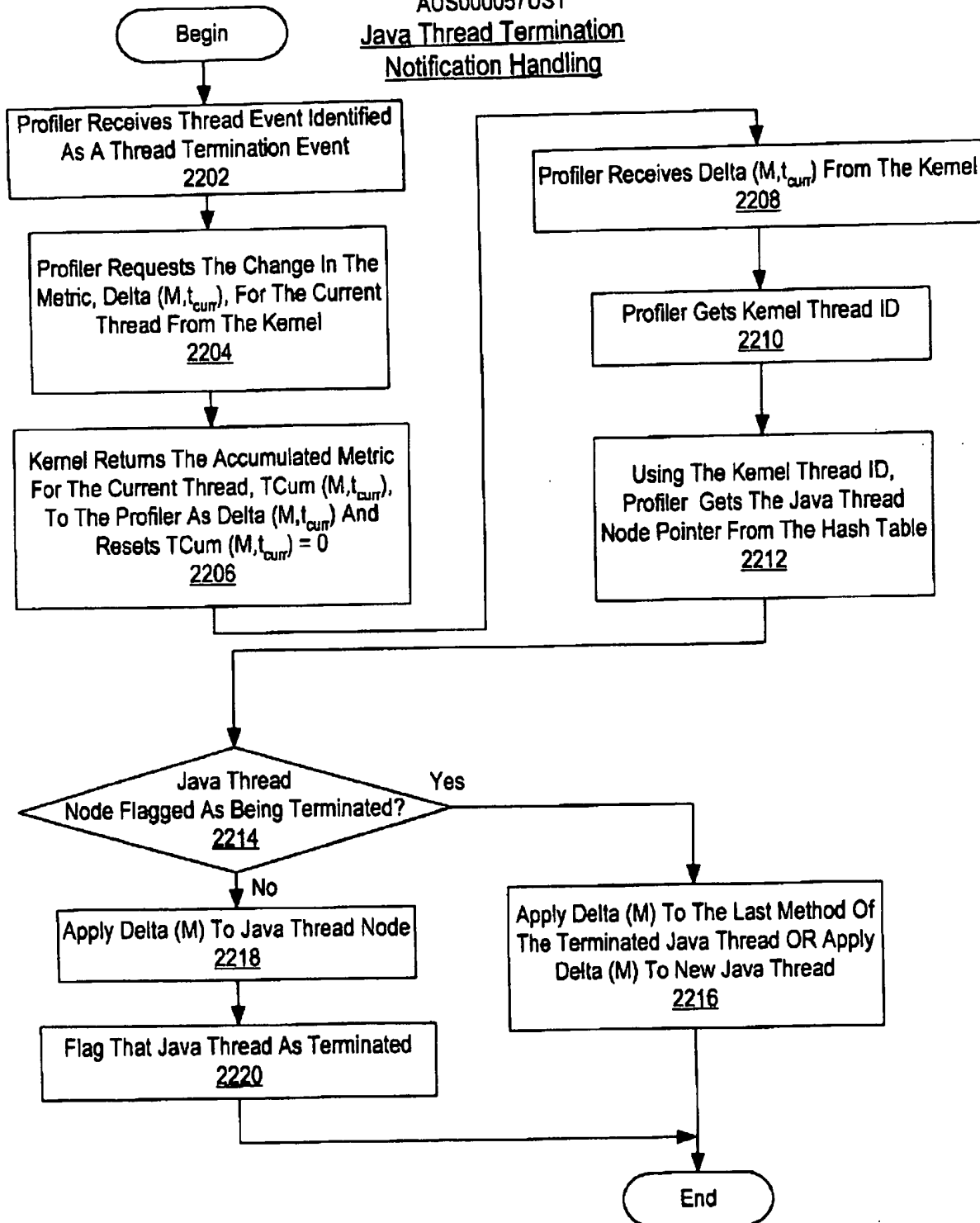
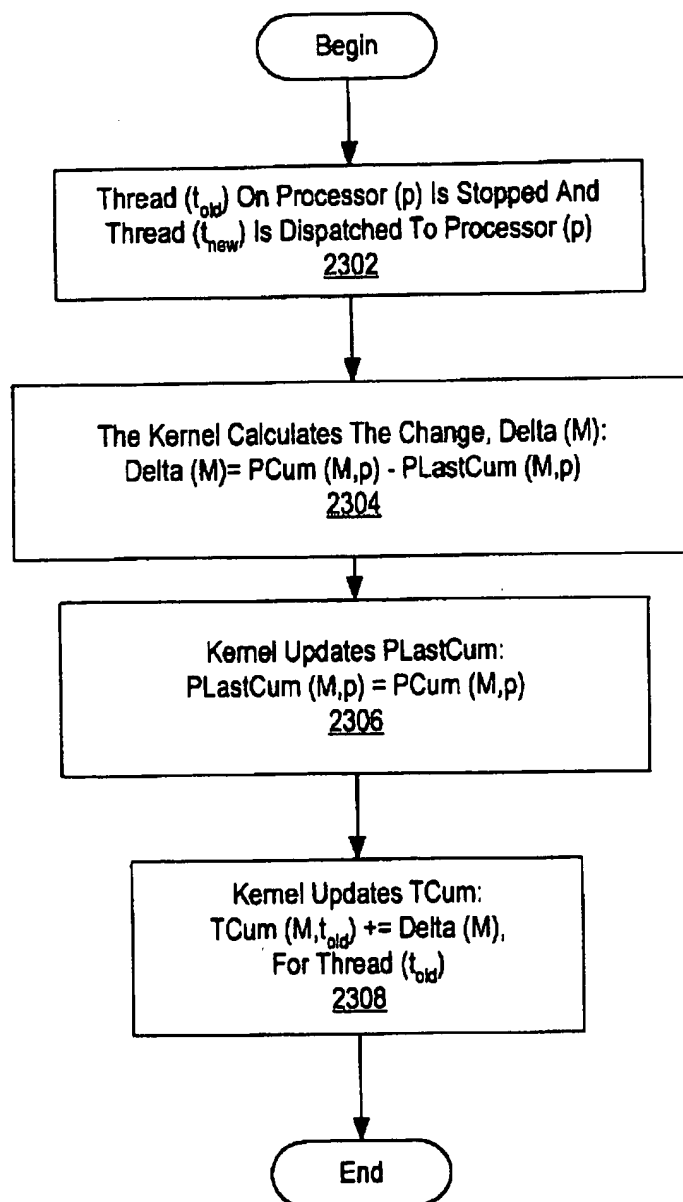


Figure 23

AUS000057US1

Process for the Kernel Updating Base Metric Response to a Thread Dispatch Event

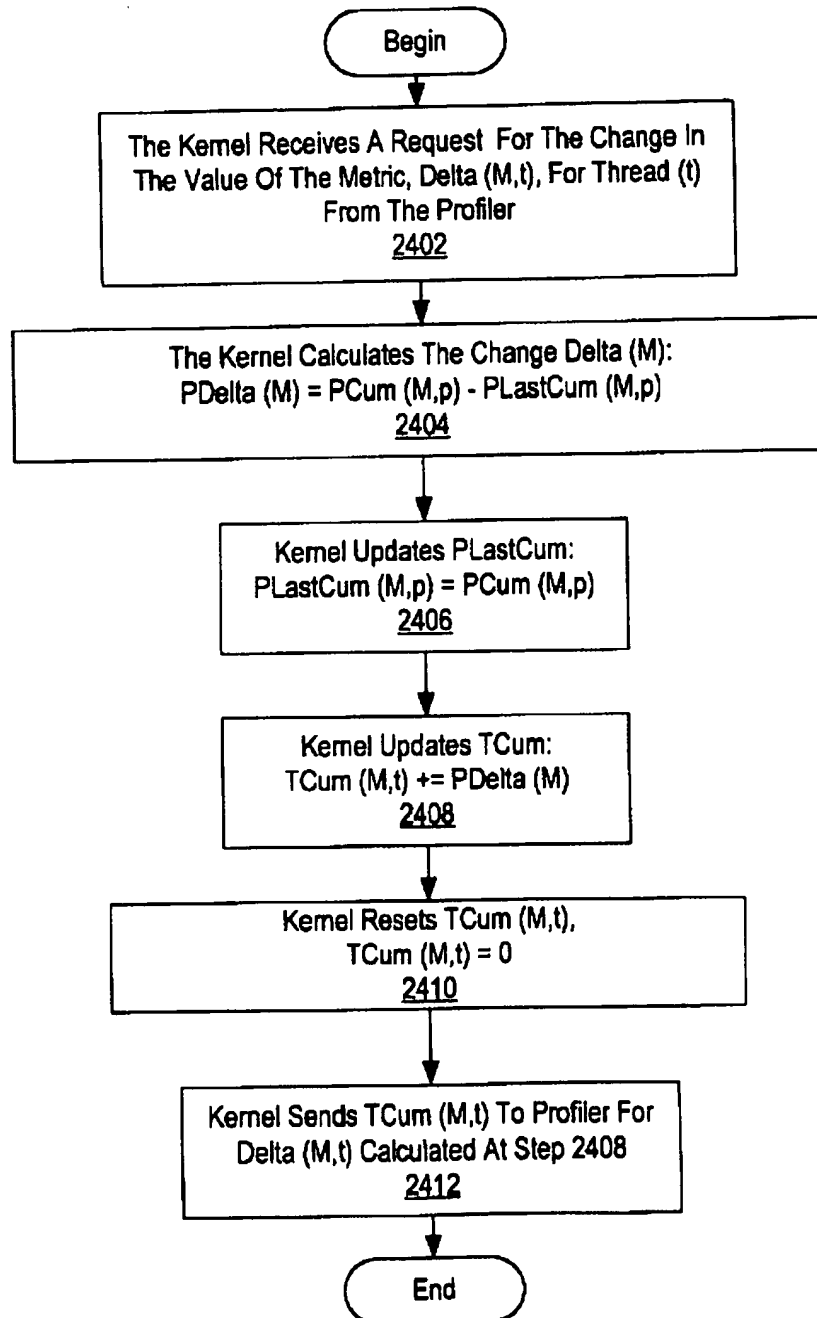


005020"05021500

Figure 24

AUS000057US1

Process for the Kernel Updating Base Metric Variable Values in Response to a Request from the Profiler (SMP Enabled)



009020"09021560

Figure 25

AUS000057US1

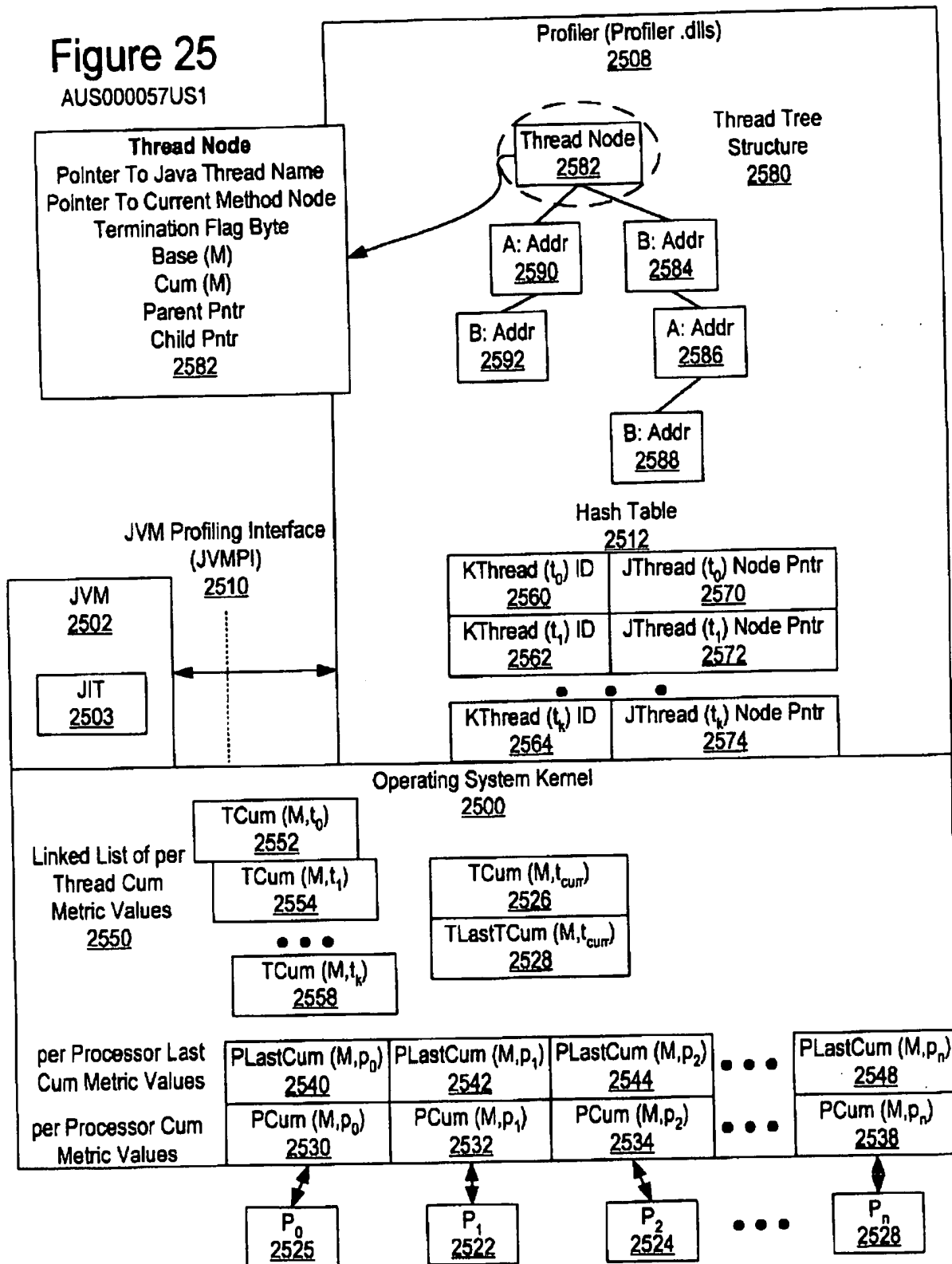


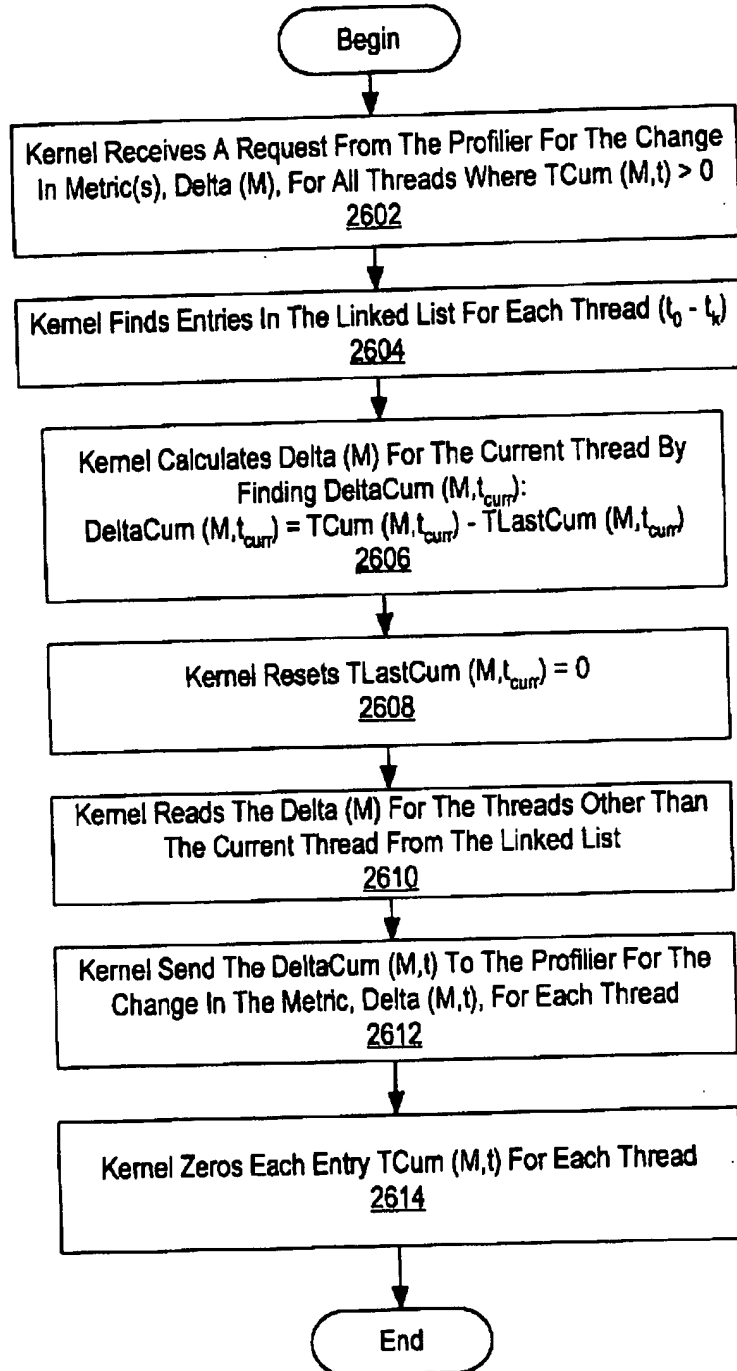
Figure 26

AUS000057US1

Kernel Using a Linked List to Calculate Delta (M)

Solution 2

Kernel Has A Linked List
For All Threads With
Nonzero Metric Values
Since The Last Request
From The Profiler



005020"032360